



FIGURE 15a

TGTTAAKCMACCGARMGWSAKNCCGAKGGTGGKGVAAVGTGACARAGCTNGMNAARANGAAGTATGACOWETGGCCCRAGATAGMAMDAGNEM 100

????R????P?V????D?A??K?KYD?WA?I???K?
???H????R????VT?L?K???SMT?GPR.??S?
V????T?????G????Q.S??K?EV.PVG?D????A?
SAGKTRANGRCGATGGNCCGCAAVCGABWGGIAHTBCGGNWDCAKNGTCCAAATKSANITCSAGGAACCMACGGAMTGGCTCGCARCCCDTAGG 200

???GRW??Q??G??G?Q?PN???RN?R?GSQP??G
???DDGPA?R????A??VQ????GT?G?AR?P.
?.RTM???P?????R???SK???SQEPT?WLA???R
GATCAGGKACGATGRTCSCCGRNSKACTCSGNKTGRTWAATCGANWGTGGGAGGCGGNGGAATRWAAAGTANTGGTMGAMAKATGNGVMGGAWATGA 300

IR?D?SP??S?.?I??R?A?EL?S?GR?M?R?
GSGTMM??R?T??D?S?VGRRRRN?KV??V????G?D
DQ??R?.L????L??INR???GGGI?K?W?????M
TRGTMGACTVIMVGGVAKVTAKSGGTACAGGCGAKACARGRAKGTGTCTGAGGGAATCAGNAGGACAMMTTCCGAGTCCGGACTTAGKATRGAT 400

?VD??G????YRR?Q???V.G?Q?D??AEVRT.??
??T????GTGE??VSEE??RT?LPKSGSL??D
??RL?R????VQA?T???CLR?S?.GQ?CRS?DL???I
ACGRANCKTAGATCTTAMADGGGGKASCGASTGCTAAACGVARATRGNSWGTCTACTTMAACNCCAGNGDGGACATTACTAGAGAGAGAGTA 500

YE???IL?GG?RV?KR????LL??Q??TFTTR?GE.
T????S??G?SEC?N????VY?N?K?GHLL?EES
R??DL??G?ASA.T??G?ST?TP??DIY.?R.RV
GCTAGATCAGCTGAGATGATCTAAKSTGGGTCGCCGTGCCAGTATATGAGGAGCTGGTCCGGACAGATWAGATGCTCTTGTGACTCACATATTGTT 600

PDH?R.S?VGSRCQYMRGLVRQT?MLFADSHIV
SQIT.DDL?WGPVASI.EDWFGGRH?CSLLTHILL
ARS?EMI.?GVPLPVYERTGSADIDALC.LTYC
GCTVAGKATGATCAGATACGATCTGWTGTCCTCATCATGAATSTGRCGCTGATCTAATGAGATTGCGCTATGATGACACAGAGACTTGTCTAC 700

A???MI RYDL?SLIMN??RDANEIRL.WNKRL?L
P.?.SDTI?CPS.S???AVMLMRFAVDGTRD?CY
C?E?DQIRS?VPHHE??P.C..DSPMMEQET?AT
AGAGGCGAATGAGGCTTTTAGAGTAGGACTCTCAGGAGGAGAGAACTGTGAGCTGGAGGACTCAGGACTCCAGGAGGAGAGTGGCCACACTGSCCT 800

QQANE GF.SRSLRRRETVDLEDQGLQEEVATTGL
SRRMKVSRVGVSGGEKLWTRTRDRSRK?POLA
AGE.RFLE.ESQEEERNCGPGGPGTPEGGS?HNWL
GAGTTTGGGCTCCGATCTGATACGGCTCGTCTTVGASTATACCCCTCTCTTGTGGTGGCTCAGAAATGCTTGGACTTTTCACTCCCACTGGA 900

?FRLRS.Y?LVLL?VIPLSCWMAQKCLDLFIPTG
?SFGSDPDTGSS?ELSPSLAGWLRNAWTFSSPLD
?VSAPIILI?ARP?SYPPLLLDGSEMPGPFPHW
CAACTAGGCGCTGGCGTTGGCCCTGGGATTGTGGGGCTGTGTGGCTCATATCTCTCCATTCTGTCTATTCTACCCCTAATCTGTCCCTGGNTACGA 1000

QTRRLALWPWDCGAVWPHILHSVYSHPNLSL?T
KLG VWRCPGPIVGLCGLISSILSLTLICPW?R
TN.ASGVVALGLWGCVASYPPFCLFSP.SVPGYD
CTCAGCCCTGACTGACAMTGGTACAGATAGGAGGAGGCCAGGTGGGTGAGATGGAAGCTGAGATGGTACTGTGTGCGGACCTCAITGIAATT 1100

TQA?TD?VVQDKEGAQVGE MEAE MVHCVPTSL.F
LKP?LT?WYKIRREPRWVRWKLRW?TVC?PHCN
SSPD.?CGTR.GGSPGG.DGS.DG?LCA?LIVI
CACTNCCCTGACTGAGSTTAATCCAGATCCYTAGGATGAGGGGAGAACCTGCCAAGACGGGTGAGGAGGAGCTGCTAAGGGAGGCTCCTGCA 1200

N?LD.S.NPDP.G.GE E PAKDGSGRQC.GKAPA
ST?LTEVKIQI?RDEGKNLPKTGQEGSAKGRLLQ
QLP.LKLSRSLSLGMRGRTCQRRVRKAVLREGSC

FIGURE 15b

GGCCTCTGCAGTTGGAATTCATTACAGTCCCAATGCCAGAATCTCATAGCTCTTCCCYTTATCTCTGTCTTGAGTCTAGTAAGAANTTTGTTACC GGAG 1300

G L C S W T S F S P I A R I S . L F P L S L C L E S S . E F V T G
A S A V G L H S V P L P E S H S S S ? Y L S V L S L V K N L L P E
R P L Q L D F I Q S H C Q N L I A L P ? I S L S . V . L R I C Y R R
ACAGAATTCTCTTTCTTAGCTCTCTGCCAGATATTAAAGGAGGGGGGGTGGGTACTTTTTGGTAGGGGGAAGCTTAAGTTATGGATAGCAAAGTGCTA 1400

D R I L F L S L L A R Y L K G G G W V T F W . G K L K L W I A K C .
T E F S F L A S W P D I . K E G G G L L F G R G S L S Y G . Q S A
Q N S L S . P P G Q I F K R R G V G Y F L V G E A . V M D S K V L
ATTGTATTCTTTTTTCTGAACCTCATGTAGCAATTTTTCTCCCTTCCACCTCCATACTTTCCAGGCTTCATTTTCATGCGCGGGCTCTCTTCGCTCA 1500

L Y S F F L K P H V A F F F P S T L H T F P G F I S C P A S L R S
N C I L F F . N L M . H F S S L P P S I L S O A S F H A R R L F A H
I V F F F S E T S C S I F L P F H P P Y F P R L H F M P G V S S L
CACCGCTGCAGGCTGTTTAGGCTTCTCCCCCTGGGCTCGCCTCAGCAGCTGCTCCACACTITCCAGTTTCTGCTACAGCTTGATATTAGAGTTTCT 1600

H R C R L F E A S P L G L P Q O T A S T L S S F C V H V D I R V S
T A A G C L R L L P W V C L S R L P P H F P V S A Y T L I L E F P
T P L Q A V . G F S P G S A S A D C L H T F Q F L R T R . Y . S F L
TCCCCTACTTGGCTCTTCTCTCTCTGACTACCCAGGCTGATGCCATGCTCTGGCTCTTCTCTGAAATACTGTACAATGATCTATGTAAATACTGGT 1700

F B T W L L L F L . L P R L M P C L A S S C K Y C T M I L C K . L V
S P L G S C S P S D Y P G . C H V W P L P V N T V Q . F Y V N N W
P H L A L A L S L T T Q A D A M S G L F L . I L Y N D S M . I T G
CCTTGGCCACAGCAGCAGCAGCTTCTAGGCTAACAAATTAAGATCAAGTTTGTCACTGACTTTTTTATTCAATTCAAGATGGCGGGGGGGTGGGGT 1800

L A H R A S K P S R L T N . R S S L L T D F F I Q F K M A G G G V
S L P T E Q A S L L G . Q I K D Q V C S L T F L F N S R W R G V G V
P C P Q S K Q A F . A N K L K I K F A H . L F Y S I Q D G G G W G
GGGGGGGGGATTGCTGTTTTCACTGTGGTACCTAGGAGGGCTGAGCTCTGAGCTCCCCCTGCTTTAGGCTTCTGAGTAGCCTACAGTGAAGTTACTG 1900

G G R I A C F H C T V . A G L K L . A P L L . A S E . P T V S V T
G G G L P V P T G T V P R Q G . S S E L P C F R L L S S L Q . V L L
G G A D C L F S L W Y L G R A E A L S S P A L G F . V A Y S E C Y C
TGTCAGCTGCTCGTTGATCTGCTGCTCTCATGGTCTGGCTATGTAGCTTTCTGACTGTGGATGCTTTCTCTTGGCTTAGCAGCTAACAT 2000

V S S C S L T S G L S W S G H C K P . L S D C G W L S L A L A A N M
C P A A R . H L V S H G L V I V S L S S L T V D G F P P W R . Q L T
V O L L V D I W S L M V W S L . A L A L . L W M A F L G V S S . H
GGTTACAGGATTTCACTGMAAATTAAATGTTGGGGGAAGGTGCGGACACACCATAATGCTCCCAATTCAAAACATCCGTGAACAGCCTCAGTTAG 2100

V T G F H . K F E C W G G E G A D T P . W S O F K T I R E T A S S .
W L Q D P T E N L N V G G K V R T H N G P N S K Q S V K Q P Q V R
G Y R I S L K I . M L G E R C G H T I M V P I Q N N P . N S L K L
GGGTGAGATGTTTTACCAAASTAATTATCTTGACACCAACAAGSCACACCTGTCTACAGGCASTGACTTCCCGAAAAGCTATTAGACACACAAAGCAT 2200

G . D V F N Q S N Y L D T T K H T C L Q A V T P O K L L D T Q Q A
G E M F S T K V I L T P Q S T P V Y R Q . L P K S Y . T H N K H
G V R C F Q P K . L S . H H K A H L S T G S D S P K A I R H T T S M
GACCATACTCAGTGGATTGCAAGGTACACAGTAGGACTGCCCTTACACAGTAGTAGGAAAAATGCTGCTGTACCTGCTCAGCTGTTATTITTGCA 2300

P . L S G L A R S H S R T A L H T V G R K M L L S L L S A V I L H
D H N S V D W Q G H T V G L P P T Q . V G K C C C H C C Q L L F C
T I T O W I G K V T Q . D C P S H S R . E N A A V T A V S C Y F A
TATCCCATGTTAAGATTANTAAGSCAAAAATATTGTCTCTAAGTCTACTTTCTGTTCACCAACTGGAGGAATATTGATTAATAAACCCTGCATAAA 2400

I P C . D . G K E Y C L . V L L S V P N W R K L L N K . T V H K
I S H V K I N K A K N I V S K S Y F L F O T G G N Y . I N K P C I K
Y P M L R L I R O K I L S L S P T F C S K L E E I E . I N R A .

FIGURE 15c

AGTAGCCTCAGAAAGGGTCAAAATTGTGTTTTCTTTGAATATTAGCTGAGGCTCCAGGGGSCAGSCACCAAGGTAGAGAGCTGGACTAAGGCTGCTCTG 2500

SSLRKGNLCLFL.IILA EASRGQH QGRELD.GCS
VASERVVVCVFF EY.LRPPGGSTKVESWTKAAL
K.PQKGSKFVFS LNIS.GLQGAAPR.RAGLRLLC
TGTCTCTGCTGGGCTCCCCACAGCTCCCTTCCACCACTCCCTTCCATCCAACTTTATTTTAGCTGCCAGTGGGAGGGGACAGTAGGAGGA 2600

VFLSWAPHSSLPPLPFPFHTLFLAASGRGQDRRE
CSCPGLPPTAPPFHHS SHSIQLYF.LPVGGGRIGG
VPVVLGSPQLPSTTTTPIPSNFIFSCQWEGAG.EG
AAGTAACGAACAGCCAGGAGAGGACAGAGCACTCAGAGCCTCTCGGACTGGACGGGACAGCGCCCATGGAGTCTCTCTCATCCCTCACTGCT 2700

SNENSQGGEGQSNSEPLGLDRTSAHGVSLHPSPA
KVTKTAKERDRATQSLSDWTGQAPMESLSIPHLL
K.RKQPRRGTEQLRASRTGPDKR PWSLSPSLTC
CTGCCCCCTGGCGTWCCTGACAGGTGAGGAGCAAACTTGGTTTCTGCTGGGATGGAAGTTATGTGATTTATTAATGGGACCATTTATGGCTAAA 2800

PAPGVADR.GKQTWFLLGMEVMMWIVYNWDHYG.
LPLA?LTGEGSKLGFCEWFKLCGLFIIGTIMAK
SCPWR?.QVREANLV SAGNGSYVDCL.LGPLWLK
ACTTGGGGGCTGAGGTGGAGTTAATACCGATGCTATATTCTGTGCTACTCATGTTCTTAGACACCAATGGCAGTGGCCAAACTTCTCT 2900

NLAGAQVGG.YRCYISCVHSCS.TPKWQWPKLP
I?RALRSEVNTDAIFPVCTHVL RHPNGSGQNF
S?GRSGRLIPMLYFLCALMFLDQTQMAVAKTS
GGCTTGACCTCTATTATCTAAACCTTGTCTTAACTCCACAGCATGAGGSCACAGAAAGAGAGCTGTCTCTCAT 3000

ACTSLSKPLYLII.NLGPKLHRHEGTEKRRVSH
WLVPHYLNLCT.LSKTLVLVNSTDMRAQKR DVS
GLYLIIT.FVFPNYLKPWS.TPQT.GHRKETCLS
CTTCATTGGGTACACTGATCTTACCTCCCTGCTTCTCCCTGCCATTGGTGTCTCTTGGTGCTGAGGCATATGCTTACTATGTGGTCAGACT 3100

LPFGYTD SYLP CFSLP LVL LGA.GI IALLCGQN
FHSVTLIPTFPASPCHWCSLVPEA.LPYV VRT
SSIRLH.FLPSLLLP AIGAPWCLRHNC LTMVSEL
CTGGGTTGGCTAACGACCGGACACAGTTCTGGTCTCATAGCCCTGCCAATTTCTGGATTAAAAAAAAGGCTCACATATAAATCCCTTTCTGA 3200

SGFA.RPSYSFWSHSPANFLD.KKKKAHI.NTFSE
LGSPNDRATVSGLI ALPISWIKKKRLTYKIFL
WVRLTTELQFLVS.PCQFP.PGLKKKG.S-H-I-K-Y-L-F
AATGAGCAGCTGTGAGTTAGATTITGGGGGATGGAGGTTGCTTGGTGCAGAGACAGACAGTATCATGGAGGGATAG 3300

NEHSV.S.I LGGGLLGCKEQDSREENHGRDK
KMSTV.VEVRFWGM EGCLDAKSKTVEKRIMGGIR
K.AQCE LKLD FGGWRVAVWMQ RARQ.RRESWEG
AGGCTGGATTTTCCCTGCTAGTCCCTATATCTTTGTTTCCAAATACAGCTCTGATTTTATGGGATTTGGGTCAGGAGAAAGGATCAGTAGG 3400

RLEFFPASAL.SLFPKITALILWELGSGERNQ.
GWNFSLLVPYNLCFLK.QL.FYGNWGOEKGISR
EAGIFPC.CPIIFVS.NNSSDFMGIGVRRKESV
CACAGTGGGACCCCAAGCTGGACTAAAGTTTGAGGAACTATGGGATGAGCAAGGGGTGTTGTAAAGTGGATGAGTGGAGGATTGTGGTGGGG 3500

AQMGPOAWTKV.GNYGSRQGVFVRWMR.GDCGGG
HRWDPKRGLKFEETMGVGKGCL.GG.DEEIVVG
TDGTPSVD.SLRKLWE.ARGVCKVDEMRRLWVG
GGATCTTGGGGGTATAGGACCTTAACAGGGATAGATGGCAACTGTGTGGGACGGCGGTGTTCCACCCACTTAATTAGCGTTGAGTTGGCAG 3600

ESWG.DP.QG.MANCVWAGRW FHP LN.R.GWQ
GSLGGDRFLNRDRWQTVCGQAGGSTHLSV EVGR
GVLGVIGPLTGIDGKLCVGRPVVPPT.LALLRLA

FIGURE 15d

GGCTGGAGGAGGACGACCTCTACCTTGGAGAAAGTGCAGTGTGACAGAGAAACAGAAAGAGGAGACACCCGGGAGGGAGCTCCTTGCCATCGT 3700

G W K E P A L S T L E K V Q V . Q E E T E R G D T R A G S S S L P S
A G R S Q H S Q P W R K C K C D K K K Q K E E T P G Q G A P C H R
G L E G A S T L N L G E S A S V T R R N R K R R H P G R E L L A I V
TTCTTCCCATGGCCCTGGCTTGGAGAGATTAGGAAGGGTGGTGACTCTGCATCCTCAGAAAGCCCTCTCTCCCTTTTGGACTCTCGAGGCTTAGA 3800

F L P M A L L L G R I R K G W . L C I L R K A L S P S L D S R G L E
F F P W P W L W E E L G K G G D S A S S E K P S L P L W T L E A .
S S H G P G F G K N . E R V V T L H P Q K S P L S L F G L S R L R
GAGGAGATGTGTAGGAGATGATGTGGAAGAGTAACCTTGACCTATCCAGATGTGTCTGTGATGAGATTTCAGGAATGAGATGGAATACAGCTGT 3900

R R M C R R N D V E R V T . P I Q M C L . M R F Q E . E W K Y S C
R G E C V G G M M W K E . L D L S R C V C E . D F R N E N G N T A V
E E N V . E E . C G K S N L T Y P D V S V N E I S G M R M E I Q L
GCTTACGATGGCCGAGGGCTTAGGATCCCTCACCCCCACCCACAGGAAGAGATCATCCATCATCCACCTGGGGTCTGAGGACATGACATTGAC 4000

A S A W P R A L G S L T P T P Q E E N H P I I P P G V L R T . H .
L Q H G R G P . D P S P P P H R K R I I Q S S H L G F . G H D I D
C F S M A E G L R I P H P H P T G R E S S N H P T W G S E D M T L T
ACAGAGCAGGAGAGCTGAGATAGAACTCCCTCCTGTCTGTCTCCACTAAGCCTCACCAGTCCCTTCATTAACTGATGGTGGATGCTAATTATGAT 4100

H R A G E L R . K H S L L S C L V S L T S P S L T D W W M L I M I
T E Q E S . D R N T P S C L V S H . A S P V L H . L I G G C . L .
Q S R R A E I E T L P P V L S P T K P H Q S F I N . L V D A N Y D
CCTCACCCCTCAGGCTCTCTGTCCTCCCTTATCTGGATGACACACCCACAGCTCTTTCACAGGGCCACAGAGGCGGAATTGGATACAGTGTCTTAC 4200

L T P Q V S A P P L I W M N T T H D S S Q G H Q R P N L D T V S Y
S S P L R S L L P L . S G . T P P T T L H R A T R G R I W I O C L T
P E P S G L C S P F N L D E H H P R L P T G P P E A E F G Y S V L
AGATGTTGGGGTGGACACGATGGTGGAGGGAAACAGAGGACCGTGGGATCGGGACTATGCACTCACTGATAAAGGGGAGGACCGGTCCAGCTGG 4300

S M L G V D S D G E R E N R G P W D R D Y A L T D K G E D R S K L
A C W G W T A M V R G K T E D R G I G T M H S L I K G R T G P S W
Q H V G G G Q R W . E G K Q R T V G S G L C T H . . R G G P V Q A G
CCTTGAAGTGCCTGGGGCTCATGACGTCTCATGCACTCTCCCTCTCACTATACTAAGGACCATGCTCACCGGATCTTTATATCATATTCTCCTTCC 4400

A F E S A W G S M T S H A L S L S L Y . G P C S P D L Y I H I L P
P L K V P G A P . R L M H S P S H Y T K D H A H R I F I S I F S P
L . K C L G L H D V S C T L P L T I L R T M L T G S L Y P Y S P S
AGGATGCTGGTGGGTGCCCCCTGGGATGGCCATCAGGTGACCCGAGAGGGGATGTTTATCGTGTCTATAGGGGGATTCCACAGTGCTCCATGTACCA 4500

G C W W V P P G M G H Q V T G E G M F I V A L . G D S T V L H V P
Q D A G G C P L G W A I R . P E R G C L S L L Y R G I P Q C S M Y Q
R M L V G A P W D G P S G D R R G D V Y R C S I E G G F H S A P C T
AAGGCCACTGGGTAGAGAGACCTGACCTTTCCCTGCTATTCCTGATGTTGACATCTAGTAACCTGTGACCCCTTGGACCTTGTCTCAATGACCT 4600

K A T W V R R S L T F P L L I P D V D I . . L . P L G P C L Q . . P
R P P G . E E A . P F P C . F L M L T S S N S D P L D L V F N D P
K G H L G R K K P D L S P A N S . C . H L V T L T P W T L S S M T L
GRACTARAGAGCCGACTATGACCCCATGACTTCATTCTCTCTACCCCTCTCCACACAGGTGACTATCACTTGGAAATTCCTCTCAGCCTGCTGTG 4700

. T K E A E L . P H D F I L F Y P S S N Q V T I N L E I P L S L L .
E L K K P N Y D P M T S F S S T L P P T R . L S T W K F L S A C C
N . R S R T M T P . L H S L L P F L Q P G D Y O L G N S S O P A V
AATATGCACCTAGGATGTCTACTAGAGACAGATGCTGTGAGGGGTTTCATGGTGAAGGAGGGGCTCAGAGGTTACAGAGGGGAGAGAG 4800

I C T . G C L Y . R Q M L M G D S W . A E R R A S E G S Q Q G R E
E Y A P R D V S T R D R C . W G I H G E L K E G P Q K V H S R E E S
N M H L G M S L L E T D A D G G F M V S . K K G L R R F T A G K R

FIGURE 15e

CATTATGGTATCTGGGCGAGTGGGGCTTGGCCCTTTCATCCAGTGTCTGGAGGCAGAGTCAGGCGGTGATCTACAGAGTGGCTCCAGGACAGCCAAAG 4900

HYGIWAVVAWAFHPSVLEAESGLIYRVSSRTAK
IMVSGQWWLGPFIPVFWRQSQA..STE..APGQPR
ALWYLGSGGLGLSSQCSGGGRVVRPDLQSELQDSQG
CTATGAGAGAACCTCTTTTGA AAAACCAAAACCAAACTAACAACACACAGAAAAGCACCGTGTAGGGGAATTAGTCTGTATAGAA 5000

AMQRNPVLKNPKPKLT KQQQQQKKHRGKGN..SV..K
LCRETLF..KTQNNQN..PNNNNNRKSTVVR EISLYR
YAEKPCFEKPKTKTNQT TTTTEKAPW..GKLVCI E
GAGACAGGAATTCAAAACCTAGAGCAGCAGGCTTCCCATGGAGTGTCTCCATCTCTCTTTAACTAGGTGTGTGTCCGAGAGGCCCTCTCA 5100

RQGIQNPREQGRVP PHGVVSISSLTRCVFREALS
RDKEFKTLESKA.GFPM EWS PSLF..LGVCSE RPSQ
ETRNSKP..RARQGS PW SGLHLSFN..VCVPRGPL
AGCCTGGGGATACTATTCTCTATCCAGGCGCTGTGCCCCCTTTGGTCTGTGCTGCGGACGTCTGTCTTCACTTCTGGATATGTGCCCT 5200

SLGITISPIHPGLCP SLVSLRQLCLQFWNMCP
AWG..LFLLLSTQA.CAPLWSRACGSSSVFSSGICAR
KPGDNYFSPYPPRPVP L PGLVPAALSSSVLEYVVPV
GTGGATGCTTCATTCGGGCCCCAGGAGCCTGSCACCCAGGCCCCAGCTGAGCCAGTGGAGGGCCCTGGAGCTCAGTCCAGATAGGATGTGG 5300

CGCFIPAPGKPGTHRPT..ASGRALEAQFPDRDAG
VDASFRPQSSLAPTAQREPV EGPWKLS SSIQIML
WMLHSGPREA.WHPFPNV SQWKGP GSSSVPR..GCW
GTGGAAAACCTAGGACAAAGCTTGGTGGAGGCTGTGATGGCTATCCCTCATCTTCCCAAGTGTGCTTCAGAGAGGCTCTGTGTTGCTAATGATT 5400

WEKLGQR LGGGS AWLSSSFPSVLAEEAPVC..LI
GGKN..DKDLVEGLHGYPHHSQVCLQKRLLFAN..L
VGKTRRTTWWRVCMAILIIPKCA CRRGSCLLTD
AGAATTGAGCTCTTAGGAGGCTCAAGACACAGGATCTGGTTTACCACTTAAACCAAAACAGCCTATCCCTGTGACAGCCTATCCCTC 5500

RIQTP..ESLKT PGGSGFTNLKTKN SISC A QPI P
EPRLLRRASR HQDLV LPT..KQNKTA YPVHSLSL
..NSDSLGE PQDTRIWFYQLKNKTKQHILCTAYPS
ATCCATCAGCTGCTCCATATCTTATTTTGGGCTCTATAGTCCCACTCAGCACTCAGTATTGGGCTCTCCCTCATGCTTTTCATATCTTC 5600

HPSRV LHLFLWL..MPSQHSVIGFSPHAFHILS
IHVSSSISYFCGSYRCQVSTQLLGSP LMPFIYF
SITC P P Y L I F V G L I D A K S A L S Y W V L P S C L S Y T F
TTATCTACTGCTTTTGGGAGTACTCTATGTAGCCAGGCTGTCTGTCTGGAATTGCTTGGCTCAGCTTCTCAGTCTCAAGTACTGGGATAAT 5700

YLLPFG R..SYVAQA VLDLGLCLPQLLSLKYWDN
LIYCLLGDSL M..PRLSLILEFACLSFSV SSTGI I
LSTAFWEIVLCSPGCP..SWNL L S A S Q S Q V I G .
AGGCATGCTGTCTGCTGCTTTTGTGACATGCCCCCTGTGSCCATGTAGGGCATGAGTCAATACTGCCCTCCCCACACACACACAAC 5800

RHALSAWPLLNMP SV A I G R A..VKYC P P P Q H T H K
GMHCLPGLC..TCPLWV L V G H E S N T A L P H N T H N
..ACIVCLAF AEHALCGHW..GMSQILPSPTTHTQT
GAAAGTGGGCTCTTAAGTGTTCATAGCAGGCTAGTGGTGGCTCTGCTAGTGCATATTTTCATCTTTTACTCTGCCATCTCTTCTTCTT 5900

RK..GSLSV P..HRVV VGLSLVHISFFYS AHLFFL
ESEAL.VPHSTG..W..ASR..CIFHSFTLPIS SFF
KVRLSKCSI AQGS GRPLASAYFILLLCPSLLSL
ATTCCACCTGGGGACCTGGCATAGTACTTCTGTGTATTAGAGAGATTCCCTTTTAAAGTGCCTGCAATGCAAGCTCTCTGGGACATTCTCCCT 6000

FPHWGP GIVLSW..LRENSLLSACIAASSWDILP
DPHTGDLA..YFPGN..ERIPF..VPALQRP PGTFSL
ISTLGTWHSTFLV I K R E P P F K C L H C S V L L G H S P

FIGURE 15f

TGCTGACTACACCCCATCCCTCCATGTTTTTTGTTTCCCATCACTATGCCCCCTTCTAGGCTGTCCACATACATGGATGTCGTTCATTGTTTTGGAT 6100

C . L H P T S F H V F C F P S L C P P S R L S H I H G C R H C F G
A D Y T P H P S M F F V S H H Y A P L L G C P T Y M D V V I V L D
L L T T P H I L P C F L F P I T M P P F . A V P H T W M S S L F W M
GGCTCCACAGTATCTATCCCTGGTCAGAGTTTCAGACTTTCCCTCGGAGGCTGGTAGGAGACTGTTTCATCGATCCGGAGCAGATACAGTAAAGAGAA 6200

W L Q Q Y L S L V R S S D F P S E A G R K T V H R S G A D T G K R K
G S N S I Y P W S E V Q T F L R R L V G R L F I D P E Q I Q V R E
A P T V S I P G Q K F R L S F G G W . E D C S S I R S R Y R . E K
GATATGGGATAGGATTGGAGGGAGAGTAACACTCCCTGGACCCCTGGATGTAAGCAGCCATGTCAGCCCTCTTGATGACCCCTGGGACATTGTCT 6300

I C G . D W R E R S K H S W T L G C K Q P C P A S . . H P G T L S
R Y V D R I G G K E V N T P G P L D V S S H V Q P L D D T L G H C L
D M W I G L E G K K . T L L D P W M . A A M S S L L M T P W D I V
TCTACAGAACTCATGCTCAGAACTGTGCAATTAACTTACCAAAAGTCACAAAATTTTCATAATGTTTGAAGTAAGTTTATGATTGTGTGGGGGGCCAC 6400

S T E L M L R N C A I N L P K S H K N F I M F E V S L . L C G G P
L Q N S C S R T V Q L T Y Q K V T K I S . C L K . V Y D C V G G H
P Y R T H A Q E L C N . L T K K S Q K F H N V . S K F M I V W G A T
ACTCAGAGTTCCTCTTGTCTGTAGTTGCTTGGGCAATGATGCCATGAGCTGCAAGTATAGACACACTGTTCACTTCCCTTCATCGTGTGAGG 6500

H S E L P F A A C S C L G N A C H E L Q V R H T C S L P L H R A A G
T Q S F P L L L V V A W A M H A M S C K L D T P V H F P F I V L Q
L R A S L C C L . L L G Q C M P . A A S . T H L F T S P S S C C R
TTGGACACACTGTAGGAGGTTCACTTCCCTTCATCCCTTGTGCTCCATCTTCTACGCTCTTCATACATCCATGTGGGACAGTGTATGTCTCT 6600

W T H L L G V H F P F I L C A P S S L R S S Y I P C G H M V Y C S
V G H T C . G F T S P S S F V L H L L Y A L H T S H V G T W S I V L
L D T P V R G S L P L H P L C S I F S T L F I H P M W A H G L L F
CAGGTAGGACTGGTACAGTACGGGAGAACCCCTGTGATGAGTGGTCCCTGGGAGCTTCCGACAAAGGAGAGTGTGTGAGGAGCAGGAGGACCTAA 6700

Q V G L V Q Y G E N P V H E W S L G D F R T K E E V V R A A R N L
R . D W Y S T G R T L C M S G P W E T S E Q R K K L . E Q Q G T .
S G R T G T V R G E P C A . V V P G R L P N K G R S C E S S K E P K
GTGCGAGGAGAGGGCGAGAACGAGAACCCGCAAGCGATCATGGTGGCATGCTGAGACATTGTAAGGGGCTGTGTGAGGAGGAGGAGGATCAGAG 6800

S R R E G R E T R T A Q A I M V A W . D I V K G S C E G G G R I S R
V G G K G E K R E P P K R S W W H G E T L . R G R V R E E E G S A
S E G R A R N E N R P S D H G G M V R H C K G V V . G R R K D Q Q
GGAGAGGAGAGGGCTGTGAGGTAGTGTATACATCAAGAGTCTCTGGGCGCTTATCTTTATCTGATGCCAGAGTTCCTGGAGGAGGCTAGGTTG 6900

E R E R V W S V V Y T S Q D A L G A Y L Y L H A R S S W R K A R L
G R G R G S G V . C I H H K M L W A L I F I C M P E V R G G R L G C
G E G E G L E C S V Y I T R C S G R L S L S A C Q K F V E E G . V
CTGTCCACATCTCTCTTACTGATTTGCTTTTATGGTGTGTGGGGTATCTCTCTTGTCTGTCTTCTGCAACAGACTCCATCTTTCC 7000

L S P Y S L L L Y L H F M V S V G V S L L V C S V S A H R T P S F
C H H T L S Y C I C I L W C L W V Y L S L S V L F L H T E L H L S
A V T I L S L T V F A F Y G V C G C I S P C L F C F C T Q N S I F P
TCTTCTACTCCTGCTCAATTCTGTATACCTAGCTTCTACCACTCAGCCCTAGTATTCTTTTCAACATGACTCTAAACCTCTGGGAGGCTACATGA 7100

L F Y S C V N S D T . L L N H S R P S I L F K H D S K P L G R L H D
S S T P A S I L I P S F S T T H A L V F F S N M T L N L W G G Y M
L L L L R Q F . Y L A S Q P L T P . Y S F Q T . L . T S G E A T .
CCTGACTGTCTTATTCTCCAGTCTTGTATCTTGTCAACCCAGTGTGTGTGAATGAATCTATAAATAAATAATGCTTGTACATATTACACTGATGA 7200

L T V F I L Q F L D L V N P S V C . M N L . I N N A C T Y L H . .
T . L S L F S S S L I L S T Q V F A E . I Y K . I M L V H I Y T D D
P D C L Y S P V P . S C Q P K C L L N E S I N K . C L Y I F T L M

FIGURE 15g

CAGATTATTTTATATGTTCCGTGCCATCTAAACAGTCAAGTTGTGACTCTGTGCCAGTTTGCTGCTAGATACTGTTGGGGAATGGTGTAGAAGACATCT 7300

Q I I L Y V P C H L N S Q V V T L C Q F A C . I I L L G N G V E D I
R L P Y M F R A I . T V K L L C A S L H A R Y C G G M V . K T S
T D Y F I C S V P S K Q S C D S V P V C M L D T V G E W C R R H L
G A C T C A G T G A C T G T G A C T G T G A T A C A C T A T A C G G G C A T G C C T G T A T C C A A G C T G T G T G T A T G T G A T G C A T G C A T G C A C A C A C A C A T A T G A C C 7400

. P Q . T A D S V N T L Y G H A C M Q A C V Y V H A Y A H T Y I . P
 D L S E L L T V L I H Y T I G M P A C K P V C M C M H M H T H T Y D
 T S V N C . Q C . Y T I R A C L H A S L C V C A C I C T H I H M T
 ATTATGATCTCTTTATCTCTCTCTCTAGCAGAGAAGGGTTCAGTCAGTCCCGGGGGGGAGCAGCAGAGCGCCCTAGGCTGCTGGTASTGTGCTACTGTATG 7500

Y S I L L S L F L A Q K G S V S P G G D D Q R P L G C W . L S L M
H I A F F Y L S S . H R R V Q S V P G G T T R G R . A A G S C H . W
I . H S F I S L L S T E G F S Q S R G G R P E A A R L L V V V T D
GAGAGTCACATGATGACGAGGACTTCACAGCGCTAAAGGCCTGTGAGGTGGCAGAGTGACACGTTATGGGATTGGGGTGAGACTTGATCAAGTCC 7600

[illegible]

S C F V L C C I V C V C V C V C V C V C V Y V . Y V C M H Q C T
V V L F C V V S C V C V C V C V C V C V C M C D M C A C I S A
L F C F V L Y R V C V C V C V C V C V C V I C V H A S V H
ATACCTAGTGTGTGATATCGGGTCAGAGAACCACTCAGATGTTGGTCTCACCTTCCATCTTGTGTCACCACTGGATATCTGTTCACTTGGCCTACG 7800

Y H S V Y M R V R E Q P Q M L V L T F H L V P N W I S C S L R H T
E T I V C I C G S E N N L R C W S S P S I L F Q T G Y L V H F G I Q
I P C V Y A G Q R T T S D V G P H L P S C S K L D I L F T S A Y
ATAGCCGATGTAGCTGACCAAGCTCTTGGGAGGCTTCTGTCTGAGCTCCTGTCTCTTGGTTTGAGGCATTCTGGATTACAGATAAGCTTGTAT 7900

I S Q I S . P T S L G Q V F C L S L L S L G L R H S G I Y R . A .
 A R L R D P Q V L G R S S V S A S C L L V . G I L E F T D K L D
 N K P D . L T H K S W A G I L S Q P P V S W F E A F W N L G I S L I
 ATCGATTCTCTGCGACGCCGGGGGKCCACTAGTCTTAGAGCGGCCGCCACCAAGGGAG 7958

Y R I P A A R G I H . F . S G R H Q G S
I E F L Q P G G S T S S R A A A T K G
S N S C S P G D P L V L E R P P P R E